

## 2.0 PURPOSE AND NEED

It is important to establish the Purpose and Need for a project during its early stages since it defines the actual reason(s) for doing the study and provides the basis for the development, evaluation, and comparison of all alternates. According to current KYTC policy, there are three parts to a complete Purpose and Need statement: (1) the Purpose, (2) the Need, and (3) Goals and Objectives. The Purpose identifies the problem to be solved by the study and is supported by the Need. Goals and Objectives are other elements of the study that go beyond the transportation issues in the study and should be considered and addressed as part of a successful solution to the problem.

The Purpose and Need statement for this study was developed from issues identified in field reviews, through stakeholder and public input, as well as from deficiencies identified in the Existing and Future Conditions technical analysis. A complete description of these project phases is included in the following chapters of this report.

### 2.1 Purpose

The purpose of this study is to determine the need and explore methods to improve safety, connectivity, and regional access within Jessamine, Fayette, and/or Madison Counties between US 27 and I-75.

### 2.2 Need

Supporting the study purpose above is the study need. Extensive input was requested regarding project issues, goals and objectives from several sources. Meetings with local elected officials were held at the beginning of the study in part to solicit input on project issues and goals. A breakout session was performed during the first Project Work Group (PWG) meeting to solicit input regarding issues and goals for the project. Additional input was requested about project issues and goals during the first Public Meeting held on November 20, 2007. Attendees were given the opportunity to voice their thoughts at the meeting by listing issues and goals on available notepads as well as on the survey forms provided. This input, along with the initial technical analysis has shown a documented need exists. The supporting need is discussed below.

**Connectivity** – There is no direct route centrally located between US 27 and I-75 through Jessamine, Fayette, or Madison Counties. A network of rural roads does provide poor access between the two facilities but deficiencies in this system are discussed below. Additionally, Man O' War Boulevard in Lexington also provides indirect access but there are issues making it a poor connection as well that are also discussed later in this report. As such, there is no easy or convenient way to travel between Nicholasville and Richmond without having to travel through Lexington. Better east-west connectivity would provide increased access to numerous destinations including points north and south on I-75 for traffic to and from US 27, regional industrial

and commercial centers, as well as Asbury College and Eastern Kentucky University. The lack of connectivity is especially apparent when there is a crash or other incident on I-75 which either causes the interstate to be closed, or have a limited number of lanes open. US 25 is available as a parallel alternative route, but shares the Kentucky River crossing with I-75. There is additionally an alternate bridge to I-75 in the vicinity (KY 3055), but it is geometrically substandard and not rated for heavy truck traffic. Minor rural routes through Jessamine and Madison Counties provide poor connectivity between the two facilities. To access I-75 from US 27 via these routes requires using a ferry to cross the Kentucky River. Furthermore, connectivity between US 27 and I-75 was the highest rated highway issue by the public, with the majority of respondents in favor of a new east-west connector.

**Vehicle Safety** – This was the second highest rated highway issue identified by the public based on survey response forms from the first public meeting. Some of the local roads that are used to travel between US 27 and I-75 have been identified as narrow, curvy, and have sight distance issues. The crash analysis showed that a number of these roadways have high crash rates (critical crash rate factor is greater than one). These highways include KY 1980, KY 1981, and portions of US 27 in downtown Nicholasville, US 25, KY 1974, KY 169, KY 39, KY 1541, KY 876, KY 1156, and Man O' War Boulevard.

**Traffic Congestion** – In order to go between Nicholasville and Richmond, many people travel through Lexington, thereby having to travel through heavily congested areas, particularly the portion of US 27 north of Nicholasville and along Man O' War Boulevard. Providing a new direct route between US 27 and I-75 could reduce some of the traffic on these heavily traveled roads, thereby improving traffic operations around Lexington. In addition to the congestion around Lexington, some of the other roads used to travel between US 27 and I-75 have poor levels of service (LOS E/F). These include portions of US 27 (north of Nicholasville), US 25, KY 1980, KY 1974, KY 1975, KY 169, KY 39, KY 876, and KY 1156.

**Travel Time Reliability** – Travel times between US 27 and I-75 are inconsistent due to the unknowns of congestion (particularly on Man O' War Boulevard), incidents, as well as at the Valley View Ferry. Also, a lack of passing lanes / areas on the highways between US 27 and I-75 often slows traffic.

**Economic Development** – Providing direct access between US 27 and I-75 may lead to economic development in the region, but not necessarily along a new route. Direct interstate access may provide the business community with quicker access to I-75, thereby both retaining current industry and attracting new industry to the area. Economic development directly related to a new highway would be dependent on planning and zoning regulations in each local jurisdiction.

**Improved Access for Truck Traffic** – There are currently no federal or state designated truck routes between US 27 and I-75. In order to access I-75 from US 27, trucks are routed on New Circle Road through Lexington. However, due to congestion

along US 27 and New Circle Road, trucks may be using alternate routes that are not rated for truck traffic. An east-west connector built to handle truck traffic would greatly improve access and reduce travel time for trucks by eliminating the need to travel through Lexington. This could improve efficiency as well as allow for improved “just in time” service in the region.

**Homeland Security** – The Clays Ferry Bridge is a major structure over the Kentucky River on I-75. From a Homeland Security perspective, if the Clays Ferry Bridge were to be closed for any period of time for any reason, a critical link in I-75 (a major north-south link between Canada and Miami, Florida and a NAFTA corridor) would be missing. This would impede a major flow of traffic and cause much disruption. The alternative options to cross the river would be to take the Valley View Ferry to the west or go through local or regional roads via Boonesboro to the east. The Valley View Ferry operates as a shuttle across the river but can only accommodate up to three vehicles at a time, thereby leading to long queues waiting to cross the river. Also, heavy trucks would not have this option for crossing the river. An alternate route in the region would also be desirable to provide for increased evacuation routes in the vicinity of the Bluegrass Army Depot, particularly in case of an incident with nerve gas or other chemical agents that are currently stored at the facility. It should be noted that discussions with Homeland Security Personnel at either the Federal or State Level were not a part of this scoping study. The KYTC has not received any commitment of Homeland Security Funds.

## 2.3 Goals and Objectives

In accordance with the Transportation Cabinet's policy on Purpose and Need statements, the following goals and objectives were developed to balance environmental and community issues with transportation issues.

- Provide solutions to meet the purpose of the project while avoiding / minimizing / mitigating impacts to farmland, historic resources, the Palisades / Valley View / White Hall Shrine areas, horse farms, threatened / rare / endangered species, environmental justice communities, as well as other environmental features.
- Consider pedestrian and bicycle facilities in conjunction with alternative improvement options.
- Consider cost-effective solutions to address specific deficiencies.
- Consider noise, water, and air quality concerns, as well as light pollution.